



US005982591A

United States Patent [19]

Folkerts et al.

[11] **Patent Number:** 5,982,591[45] **Date of Patent:** Nov. 9, 1999[54] **MULTICHANNEL MAGNETIC HEAD WITH ADJACENT WRITE GAPS IN DIFFERENT PLANES**

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[75] **Inventors:** Wiepke Folkerts; Hans W. Van Kesteren, both of Eindhoven, Netherlands**FOREIGN PATENT DOCUMENTS**

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[73] **Assignee:** U.S. Philips Corporation, New York, N.Y.**OTHER PUBLICATIONS**[21] **Appl. No.:** 08/800,444

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[22] **Filed:** Feb. 18, 1997[30] **Foreign Application Priority Data**

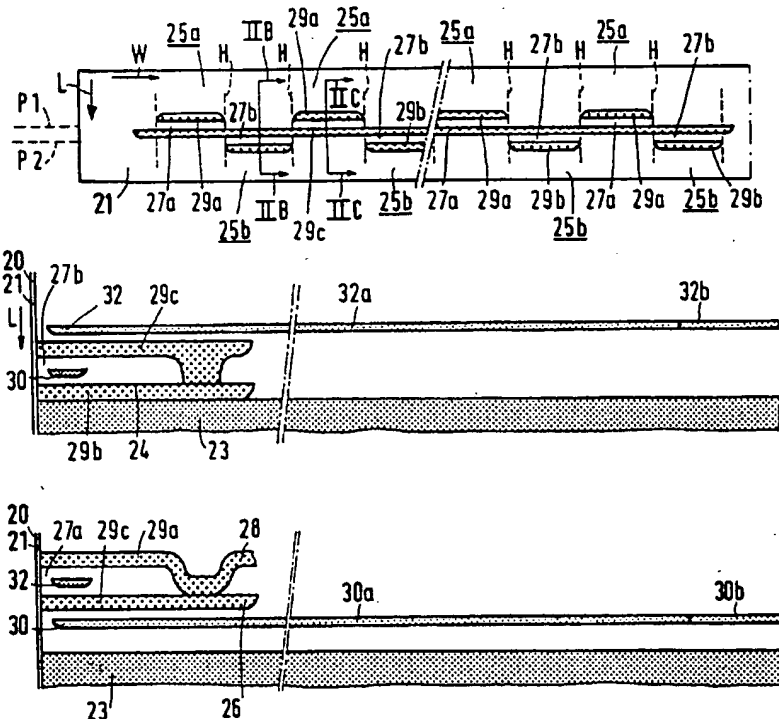
Mar. 8, 1996 [EP] European Pat. Off. 96200637

[51] **Int. Cl.⁶** G11B 5/265[52] **U.S. Cl.** 360/121[58] **Field of Search** 360/113, 121**Primary Examiner**—Brian E. Miller**Attorney, Agent, or Firm**—David R. Treacy[57] **ABSTRACT**

Integrated, juxtaposed head units of a magnetic head have transducing gaps directly adjacent a central plane transverse to the longitudinal direction of relative movement of a magnetic recording medium, adjacent transducing gaps being to opposite sides of the central plane. Head units adjoin each other so that a recording channel density of 100% is achieved. In one embodiment a common electrical conductor passes through a plurality of head units to one side of the central plane, and electrical connection tracks extending from a portion of the conductor form inductive transducing elements.

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18 Claims, 7 Drawing Sheets



US005952094A

United States Patent [19]

Van Kesteren et al.

[11] **Patent Number:** 5,952,094[45] **Date of Patent:** Sep. 14, 1999[54] **MAGNETO-OPTICAL RECORDING MEDIUM**[58] **Field of Search** 428/694 MM, 428/694 ML, 694 SC, 900, 332, 336; 363/13, 283, 286[75] **Inventors:** Hans W. Van Kesteren; Wouter B. Zeper; Friedrich J. A. Den Broeder; Johannes M. Kerkhof, all of Eindhoven, Netherlands[56] **References Cited****FOREIGN PATENT DOCUMENTS**[73] **Assignee:** U.S. Philips Corporation, New York, N.Y.

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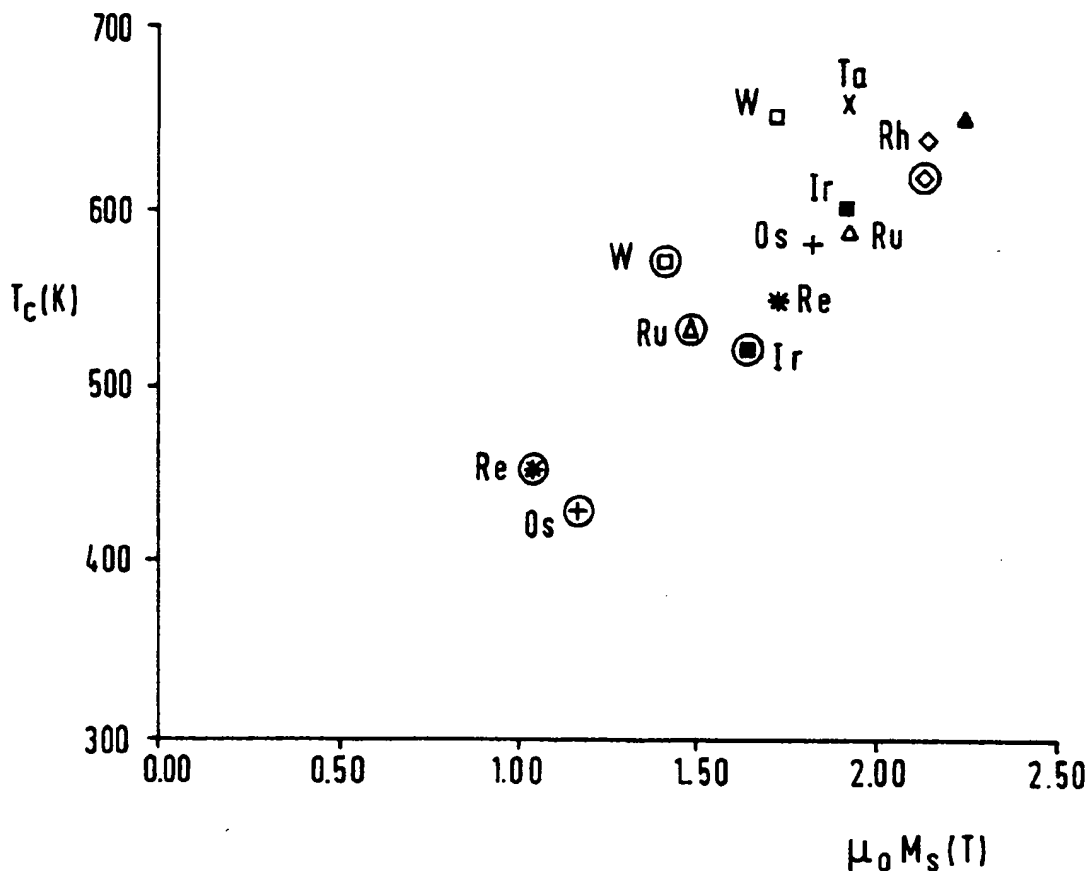
[21] **Appl. No.:** 08/179,836[22] **Filed:** Jan. 7, 1994**Related U.S. Application Data***Primary Examiner*—Leszek Kiliman

[63] Continuation of application No. 07/925,358, Aug. 4, 1992, abandoned.

[57] **ABSTRACT****Foreign Application Priority Data**

Sep. 3, 1991 [EP] European Pat. Off. 91202237

The addition of Os or Re to the Co layers of a magneto-optical recording medium comprising a Co/X multilayer, where X=Pt, Pd, Au, Ni or Ru, results in a reduction of both the Curie temperature and the magnetization. By virtue thereof, the rewritability of the medium is improved and higher write frequencies can be employed.

[51] **Int. Cl.⁶** G11B 5/66[52] **U.S. Cl.** 428/332; 428/336; 428/634 MM; 428/649 ML; 428/639 SC; 428/900; 369/13; 369/283; 369/286**10 Claims, 4 Drawing Sheets**



US005726964A

United States Patent [19]**Van Kesteren et al.**[11] **Patent Number:** **5,726,964**[45] **Date of Patent:** **Mar. 10, 1998**

[54] **SCANNING HEAD INCLUDING A MAGNETO-OPTICAL ELEMENT AND SCANNING DEVICE INCLUDING THE SCANNING HEAD**

[75] **Inventors:** **Hans W. Van Kesteren; Jacobus J. M. Ruigrok**, both of Eindhoven, Netherlands

[73] **Assignee:** **U.S. Philips Corporation**, New York, N.Y.

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[21] **Appl. No.:** **501,833**

[22] **Filed:** **Jul. 13, 1995**

[30] **Foreign Application Priority Data**

Sep. 23, 1994 [EP] **European Pat. Off.** 94202743

[51] **Int. Cl.⁶** **G11B 7/00; G11B 5/127**

[52] **U.S. Cl.** **369/112; 360/125; 360/114; 365/121; 365/122; 365/157**

[58] **Field of Search** **369/112, 110, 369/116, 13, 44.23; 359/245, 246, 251, 252, 254, 258, 255, 280, 281, 282; 365/121, 122, 55, 33, 66, 45, 157; 360/114, 112, 125**

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Primary Examiner—Loha Ben
Attorney, Agent, or Firm—John C. Fox

[57] **ABSTRACT**

Scanning head including a magneto-optical element and scanning device including the scanning head. A scanning head having a head face (1) comprises flux-guiding elements (3a, 3b) and a magneto-optical element (5). The magneto-optical element is disposed in a gap plane (4) which extends between flux-guiding elements.

10 Claims, 3 Drawing Sheets

